

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Withdrawn) A polypeptide possessing a CDase activity derived from a native CDase by addition of an amino acid sequence, with the proviso that said polypeptide has no UPRTase or thymidine kinase activity, wherein the amino acid sequence, added to the native CDase, derives from a polypeptide possessing an UPRTase activity.
2. (Withdrawn) A polypeptide according to claim 1, wherein the amino acid sequence, added to the native CDase, is linked to the C terminal end of the native CDase.
3. (Withdrawn) A polypeptide according to claim 1 wherein said polypeptide possessing an UPRTase activity derives from a yeast UPRTase, in particular that encoded by the *Saccharomyces cerevisiae FUR1* gene.
4. (Withdrawn) A polypeptide according to claim 3, wherein the amino acid sequence, added to the native CDase, derives from an amino acid sequence which is substantially that depicted in SEQ ID NO: 2, starting at the Ser residue in position 2 and finishing at the Val residue in position 216.
5. (Withdrawn) A polypeptide according to claim 4, wherein the amino acid sequence, added to the native CDase, is as depicted in SEQ ID NO: 2, starting at the Ser residue in position 2 and finishing at the Val residue in position 216.
6. (Withdrawn) A polypeptide according to claim 1, wherein said native CDase is a yeast CDase.
7. (Withdrawn) A polypeptide according to claim 6, wherein the native CDase comprises an amino acid sequence which is substantially as depicted in SEQ ID NO: 1, starting at the Met residue in position 1 and finishing at the Glu residue in position 158.

8. (Withdrawn) A polypeptide according to claim 7, wherein the native CDase comprises an amino acid sequence as depicted in SEQ ID NO: 1, starting at the Met residue in position 1 and finishing at the Glu residue in position 158.

9. (Withdrawn) A polypeptide according to claim 6, wherein it comprises an amino acid sequence which is substantially as depicted in SEQ ID NO: 1, starting at the Met residue in position 1 and finishing at the Val residue in position 373.

10. (Withdrawn) A polypeptide according to claim 9, characterized in that wherein it comprises an amino acid sequence as depicted in SEQ ID NO: 1, starting at the Met residue in position 1 and finishing at the Val residue in position 373.

11. (Withdrawn) A polypeptide according to claim 1, exhibiting a CDase activity which is higher than that of said native CDase.

12. (Currently Amended) ~~A~~An isolated nucleotide sequence ~~which encodes a~~encoding SEQ ID NO: 2 fused in frame with a second polypeptide having cytosine deaminase activity~~polypeptide according claim 1.~~

13. (Currently Amended) ~~A~~An isolated recombinant vector ~~which carries a~~comprising the nucleotide sequence according to claim 12, placed under the control of ~~the~~ elements which are ~~required~~sufficient for ~~expressing it~~expression of the nucleotide sequence in a host cell.

14. (Currently Amended) ~~A~~The isolated recombinant vector according to claim 13, wherein said vector is selected from the group consisting of plasmid and viral vectors,~~where appropriate combined with one or more substances which improve(s) the transfectional efficacy and/or the stability of the vector.~~

15. (Currently Amended) ~~A recombinant vector according to claim 14~~The composition according to claim 53, wherein said substance which improves the transfectional efficacy and/or the stability of the vector is selected from the group comprising cationic

lipids, cationic polymers, lysophospholipides and polypeptides.

16. (Currently Amended) A-The isolated recombinant vector according to claim 14, wherein said vector is a viral vector ~~which is derived from a pox virus, from an adenovirus, from a retrovirus, from a herpes virus, from an alphavirus, from a foamy virus or from an adenovirus associated virus.~~

17. (Currently Amended) A-The isolated recombinant vector according to claim 16, wherein said vector is ~~derived~~ obtained from a Modified Vaccinia Ankara (MVA) virus.

18. (Currently Amended) A-The isolated recombinant vector according to claim 17, wherein said nucleotide sequence is inserted at a site of a naturally occurring deletion within the MVA genome selected from the group consisting ~~in~~ of deletion I, II, III, IV, V and VI.

19. (Currently Amended) A-The isolated recombinant vector according to claim 18, wherein the site of the naturally occurring deletion is deletion III.

20. (Currently Amended) A-The isolated recombinant vector according to claim 13, wherein the elements which are ~~required~~ sufficient for the expression of the nucleotide sequence comprise a promoter.

21. (Currently Amended) A-The isolated recombinant vector according to claim 20, wherein the promoter is the promoter of the thymidine kinase 7.5K gene.

22. (Currently Amended) A-The isolated recombinant vector according to claim 16, wherein said vector is an adenoviral vector which lacks all or part of at least one region which is essential for replication, wherein said region ~~and which~~ is selected from the group consisting of the E1, E2, E4 and L1-L5 regions.

23. (Currently Amended) A-The isolated recombinant vector according to claim 22, wherein said vector is an adenoviral vector which additionally lacks all or part of the non-essential E3 region.

24. (Currently Amended) A-~~The isolated~~ recombinant vector according to claim 20, wherein said promoter is the cytomegalovirus (CMV) early promoter.

25. (Currently Amended) A-~~The isolated~~ recombinant vector according to claim 13, ~~additionally further~~ comprising one or more genes of interest, ~~wherein said genes of interest are which is/are~~ selected from the group consisting of genes encoding interleukins IL-2, IL-4, IL-7, IL-10 and IL-12, interferons, tumor necrosis factor (TNF), colony stimulating factors (CSF) and factors acting on angiogenesis.

26. (Currently Amended) A-~~The isolated~~ recombinant vector according to claim 25, wherein the gene of interest encodes a polypeptide ~~which is~~ selected from the group consisting of IL-2 and INF γ .

27. (Currently Amended) A process for preparing a viral particle, wherein:

(i) ~~a the~~ recombinant vector according to claim 13 is introduced into a complementing cell which is able to complement said vector in trans so as to obtain a transfected complementing cell,

(ii) said transfected complementing cell is cultured under conditions which are appropriate for enabling said viral particle to be produced, and

(iii) said viral particle is recovered from the cell culture.

28. (Currently Amended) A-~~An isolated~~ viral particle ~~which comprises~~ comprising a recombinant vector according to claim 13.

29. (Currently Amended) A-~~An isolated~~ host cell ~~which comprises~~ comprising a nucleotide sequence according to claim 12.

30. (Withdrawn) A composition which comprises a polypeptide according to claim 1 in combination with a pharmaceutically acceptable excipient.

31. (Withdrawn) A composition according to claim 30, further comprising a second polypeptide of interest.

32-34. (Canceled).

35. (Withdrawn) A method for treating a disease by gene therapy, wherein a nucleotide sequence according to claim 12 is administered to an organism or a host cell which is in need of such a treatment.

36. (Withdrawn) A method according to claim 35, wherein pharmaceutically acceptable quantities of a prodrug, are administered to said host organism or cell.

37. (Withdrawn) A method according to claim 35 wherein said disease is selected from the group consisting of cancers, tumors and diseases which result from unwanted cell proliferation.

38. (Withdrawn) A polypeptide according to claim 6, wherein the native CDase is encoded by the *Saccharomyces cerevisiae FCY1* gene.

39. (Currently Amended) A ~~An isolated~~ viral particle which was obtained in accordance with a ~~the~~ process according to claim 27.

40. (Currently Amended) A ~~An isolated~~ host cell ~~which comprises~~ comprising a the recombinant vector according to claim 13.

41. (Currently Amended) A ~~An isolated~~ host cell which is infected with a ~~the~~ viral particle according to claim 28.

42. (Currently Amended) A composition ~~which comprises~~ comprising a the nucleotide sequence according to claim 12, in combination with a pharmaceutically acceptable excipient.

43. (Currently Amended) A ~~The~~ composition according to claim 42, further comprising a second nucleotide sequence of interest that encodes IL-2 or INF γ .

44. (Currently Amended) A composition ~~which comprises~~ comprising a the

recombinant vector according to claim 13, in combination with a pharmaceutically acceptable excipient.

45. (Currently Amended) A composition ~~which comprises~~comprising a~~the~~ viral particle according to claim 28, in combination with a pharmaceutically acceptable excipient.

46. (Currently Amended) A composition ~~which comprises~~comprising a~~the~~ host cell according to claim 29, in combination with a pharmaceutically acceptable excipient.

47. (Withdrawn) A composition according to claim 31 wherein said second polypeptide of interest is selected from IL-2 and IFN γ .

48. (Withdrawn) A method for treating a disease by gene therapy, wherein a recombinant vector according to claim 13 is administered to an organism or a host cell which is in need of such treatment.

49. (Withdrawn) A method for treating a disease by gene therapy, wherein a viral particle according to claim 28 is administered to an organism or a host cell which is in need of such treatment.

50. (Withdrawn) A method for treating a disease by gene therapy, wherein a host cell according to claim 29 is administered to an organism or a host cell which is in need of such treatment.

51. (Withdrawn) A method according to claim 36, wherein said prodrug is an analog of cytosine.

52. (Withdrawn) A method according to claim 51, wherein the cytosine analog is 5-FC.

53. (New) The polypeptide of claim 12, wherein the fusion protein is SEQ ID NO: 1.

54. (New) A composition comprising the isolated recombinant vector according to

claim 14, and one or more substances which improve(s) the transfectional efficacy and/or the stability of the vector.

55. (New) The viral vector according to claim 16, wherein said viral vector is obtained from a virus selected from the group consisting of a pox viruses, adenoviruses, retroviruses, herpes viruses, alphaviruses, foamyviruses or adenovirusassociated viruses.